

**A. Cover Sheet** *(Attach to front of proposal.)*

1. Specify: ☐ agricultural project or ☒ urban project ☒ individual application or ☐ joint application
2. Proposal title concise but descriptive: Landscape Irrigation Controller Project
3. Principal applicant organization or affiliation: Metropolitan Water District of Southern California
4. Contact name, title: Peter A. Louie, Interim Conservation Manager
5. Mailing address: Post Office Box 54153, Los Angeles, California 90054-0153
6. Telephone: (213) 217-6122
7. Fax: (213) 217-7159
8. E-mail: [plouie@mwd.dst.ca.us](mailto:plouie@mwd.dst.ca.us)
9. Funds requested dollar amount: \$547,200
10. Applicant cost share funds pledged dollar amount: \$352,800 (additional \$360,000 from participating member agencies.)
11. Duration (month/year to month/year): 07/2001 to 08/2002
12. State Assembly and Senate districts and Congressional district(s) where the project is to be conducted: See attachment #(1) list of legislators
13. Location and geographic boundaries of the project: See attached #(2) service area map
14. Name and signature of official representing applicant. By signing below, the applicant declares the following: the truthfulness of all representations in the proposal;  
the individual signing the form is authorized to submit the application on behalf of the applicant  
the applicant will comply with contract terms and conditions identified in Section 11 of this PSP.
- Stephen N. Arakawa February 14, 2001  
*(printed name of applicant)* *(date)*
- *(signature of applicant)*

## **B. Scope of Work**

### **Abstract**

Much emphasis in residential water conservation efforts has been given to indoor water use. The proposed project represents a step in the direction of improving outdoor water use efficiency. This is an important aspect of water conservation since about half of the urban water use is in landscape irrigation.

Controlling landscape irrigation schedules based on evapotranspiration (ET) and other weather information is presently the driving force in the design of new landscape irrigation controllers. A study has been conducted to determine the feasibility and water savings potential of ET Controllers and the results suggest that there are potentials to improving water use efficiency in landscape irrigation. Metropolitan would establish a program to offer incentives on a regional basis for this new technology. Offering financial incentives for improved irrigation systems is one component of Best Management Practices (BMP#5).

ET based controllers are landscape sprinkler controllers that automatically change each sprinkler station run time based upon what your landscape needs to grow and stay healthy. These automatic changes in runtime can be made on a daily, weekly, or monthly schedule. These controllers use local weather data to determine ET and the amount of water based on ET that is necessary to keep cool season lawns in a healthy condition. This ET based amount of water is considered a benchmark in calculation of the most ideal sprinkler valve runtimes. ET information is available through the California Irrigation Management Information System (CIMIS), a department of the California Department of Water Resources, and is available in daily, weekly and/or monthly forms.

ET irrigation controllers will automatically set the irrigation schedule for homeowners based on local weather information. This will reduce water use by removing the need for a person to manually calculate an irrigation schedule and re-program the controller whenever the weather changes.

This project will be a joint effort between Metropolitan and a number of its member agencies that have already expressed interest to participate in the ET controller program. The local water agencies will be selecting customers in their area to participate in the program. The objective is to achieve water savings in the residential outdoor area with the use of completely automated irrigation controllers.

### **Critical Issues**

This conservation device is new and water savings for residential landscapes need to be achieved through cost effective measures. In addition to providing water savings, the ET controllers may provide a significant reduction in peaking water demands since outdoor water use is a major component of the peak water demand pattern.

### Nature, Scope and Objectives of the Project

This is a water conservation project, addressing the reduction of residential outdoor water-use. The quantifiable and main objective of this project is water savings.

This project will be installation of the first outdoor water conservation device where the water savings are not dependent on the behavior of the homeowner.

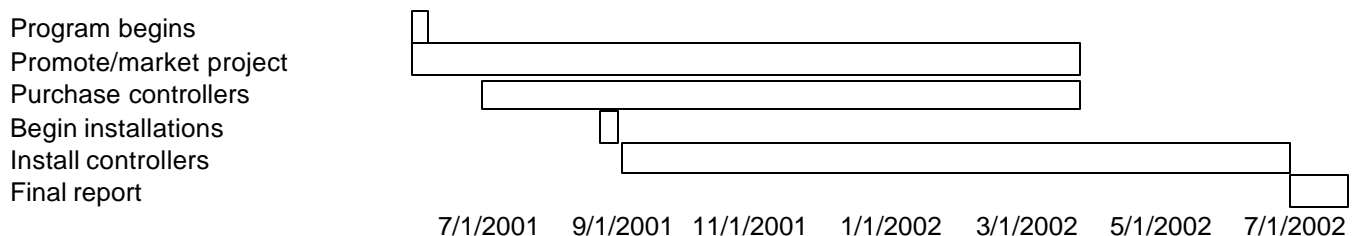
The ET Controller will automatically irrigate the homeowner's landscape based on local weather information, which in many cases will also result in a healthier lawn.

The goal is to install 3,600 ET Controllers during this first phase of the project. Any issues or problems encountered will be used to modify development of a larger scale program to be offered throughout Metropolitan's service area. Based on a study done on the controller, we anticipate a minimum water savings of 57 gallons per day for each ET Controller installed.

### Methods, Procedures, and Facilities

Working with its retail agencies, Metropolitan will market and target appropriate residential customers to receive the automated irrigation ET Controllers and provide installation of the controller. Agencies may choose to install the ET controller while doing residential audits, or may select high-water use customers to target the project toward. The ET Controller will schedule irrigation based on one variable and three constants. The variable involved in scheduling of irrigation is evapotranspiration. The constants involved are soil type, plant material and irrigation system. During installation of the ET Controller, the constants involved in scheduling have to be established. For this reason, installation of the controllers is part of the project. This will ensure the maximum water savings for each participant by having the controller set up properly when installed.

### Project Schedule



### Monitoring and Assessment

Project will be monitored throughout all stages. Reports on the progress of the project will be prepared and delivered on a monthly basis to participating agencies. Reports will include number of units installed, any issues or problems, and any additional narrative describing project progress.

## **C. Outreach, Community Involvement, and Information Transfer**

### **Outreach Efforts**

Installation of ET Controllers will be selectively conducted throughout Metropolitan's service area to capture the climatic variability of the coastal regions as well as the warmer inland empire. Many outreach efforts to contact and involve the community and extend the benefits to the people will be made. One way to involve a high percentage of the community is to translate promotional and marketing materials to the Spanish language. Metropolitan is aware of the need and is ready to respond by reaching to the Spanish speaking community and developing partnerships with organizations for the benefit of the Program and the community. Spanish speaking personnel can also be assigned to aid in the implementation of the project and offer customer service.

In the past, many Conservation Programs have been geared toward indoor water use. This project is geared towards the homeowner's outdoor use and will be offered to each of Metropolitan's member agencies with the intent of covering as much geographical area as possible. Although large amounts of water savings have been accomplished from projects on home indoor use, there is also a great potential for water savings outdoors. It is estimated that 3,600 ET Controllers will be installed the first year of the program. That translates into 3,600 homeowners who will be able to benefit from the Project.

### **Information dissemination**

Metropolitan will make this information available statewide by making the final report available in both hard copy and on the website. The report would also be provided to the California Urban Water Conservation Council to be made available statewide.

### **Cooperating Agencies**

Metropolitan already will implement this project through its member agencies and retail agencies.

## **D. Qualifications of the Applicants, Cooperators, and Establishment of Partnerships**

Resume of program manager is attached (Attachment 1). This project will also involve several of Metropolitan's member agencies or their retail agencies.

## E. Cost and Benefits

### Budget summary and breakdown

<b>Costs</b>	<b>Cost per Unit</b>	<b>Estimated # of Units</b>	<b>Total Costs</b>	<b>Met Share</b>	<b>Agency Share</b>	<b>CALFED Share</b>
Salaries and wages						
Fringe Benefits						
Supplies						
Equipment	\$200	3600	\$720,000	\$216,000	\$216,000	\$288,000
Services or consultants	\$120	3600	\$432,000	\$108,000	\$108,000	\$216,000
Travel						
Other Direct Costs	\$30	3600	\$108,000	\$28,800	\$36,000	\$43,200
<b>Total Costs</b>	<b>\$350</b>		<b>\$1,260,000</b>	<b>\$352,800</b>	<b>\$360,000</b>	<b>\$547,200</b>

### Budget justification

The equipment costs are an estimate of what the controller will cost. The services/consultant costs are for installation of the controller based on 2 hours at \$60/hour. The direct cost of \$30 per unit is for administrative costs. These estimates were based on installing 3,600 units.

### Benefit summary and breakdown

<b>Benefits</b>	<b>Water Savings Benefit Per Unit</b>	<b>Estimated # of Units</b>	<b>Total Water Savings Benefits (AF)</b>	<b>Present Value of Total Benefits (\$)</b>
Water Savings	57 gpd	3,600	2,297	\$ 806,952

Water savings estimate is based on a pilot study done which showed a potential savings of 57 gallons per day. A ten year life expectancy of the product was used. An avoided cost of \$450 per acre-foot of water saved was used. Present value benefits were calculated using a 6 percent discount rate.